Communicable Disease Report

Hawai'i Department of Health
Communicable Disease Division

http://www.state.hi.us/doh/resource/comm_dis/cdr.html **July/August 2004**

Avian Influenza A (H5N1) Update

Current Outbreak

Between January through August 2004, a total of 38 confirmed human cases of avian influenza A (H5N1) virus infections have been reported in Vietnam and Thailand with 27 deaths. The last case was officially reported by Vietnam on August 17, 2004. Outbreaks occurred between January and March, resumed in June and continued to the present.

All individuals with confirmed H5N1 influenza exhibited severe illness and were hospitalized with pneumonia. Cases predominantly occurred in children and young adults who had direct close contact with live, sick, or dead poultry.

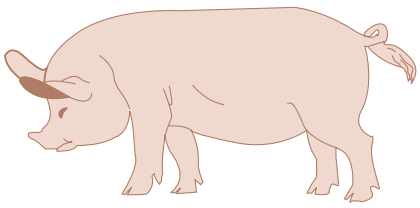
Transmission

Poultry to People

There is currently no confirmed evidence of human-to-human transmission of avian influenza A (H5N1) viruses. The existing cases were associated with widespread H5N1 poultry outbreaks that occurred at commercial and small residential poultry farms. Since December 2003, eight countries have reported H5N1 outbreaks among poultry. Outbreaks in South Korea and Japan were limited to commercial farms and have been adequately contained; however, outbreaks in Vietnam, Thailand, Indonesia, Cambodia, Laos, and China have been more widespread. The extent to which these outbreaks have been controlled is uncertain. A new outbreak in Malaysia was reported on August 18, 2004. Currently, risk of human infection of avian influenza A (H5N1) remains a public health threat in these affected areas.

Poultry to Pigs

On August 23, 2004, the People's Republic of China reported transmission of H5N1 strains from poultry to swine as far back as April of 2003 in Fujian (southeastern) province. It has also been isolated from swine in 2004. This



new turn of events signals a grave public health threat. For if transmission readily occurs between birds and swine, and if it can be transmitted to other mammals and enters into the human population, this strain may result in a deadly pandemic.

Bird Import Ban

On February 4, 2004, the CDC and the United States Department of Agriculture issued an order banning the importation of all birds from affected areas in Southeast Asia.

Vaccine Development

On August 17, 2004, the National Institutes of Health announced a contract was awarded to Chiron Corporation to develop an H9N2 avian flu vaccine. A similar contract had been previously awarded to the company to develop a H5N1 inactivated vaccine based on a strain provided by the CDC. Clinical trials of both vaccines are scheduled to begin in 2005.

Travelers to Cambodia, China, Indonesia, Laos, Malaysia, Thailand and Vietnam are advised to follow standard health recommendations for that region. As a precaution, travelers should avoid areas with live poultry, such as live ani-

continued on page 2

Avian Influenza A

continued from page 1

mal markets and poultry farms, and avoid contact with sick or dead poultry. Large amounts of the virus are known to be excreted in the droppings from infected birds. One of the most appropriate preventive measures is careful and frequent hand washing with soap and water or alcohol-based hand rubs. Travelers with an illness from any area of the world are reminded to seek prompt medical attention.

For continual updates on the evolving H5N1 Influenza A outbreak, please go the CDC web site (below).

REFERENCE:
Centers for Disease Control and Prevention. Overview of 2003-04 Avian Influenza Outbreaks. http://www.cdc.gov/flu/avian/outbreaks/index.htm.

Submitted by Tracy L. Ayers, M.S., Influenza and Respiratory Illness Surveillance Coordinator, Disease Investigation Branch, and David M. Sasaki, D.V.M., M.P.H., Veterinary Medical Officer, Disease Outbreak and Control Division.

West Nile Disease Prevention in Hawai`i

Introduction

West Nile virus (WNV) is a flavivirus, transmitted by mosquitoes, and causes disease in birds, humans, horses, and other animals. Dead birds in an area may indicate that WNV is present. Dead bird surveillance has proven to be an effective tool in many parts of the mainland.

The Department of Health (DOH) is partnering with Aloha United Way 211 to provide a WNV public hotline. Aloha United Way 211 will now be a 24 hour resource, seven days a week, for Hawai`i residents seeking information about collecting and submitting dead birds. Hotline staff may also be able to provide general information about WNV.

Dead Bird Surveillance

To date, there is no evidence of WNV in Hawai`i, but the DOH needs the help of the community to detect the virus should it be introduced. The hotline will provide baseline information about how many birds are dying and where. It will provide a centralized way for people to find out if the bird they have found is appropriate for testing, where they can submit the bird, or whether there are resources in their area to pick up birds. The DOH will test birds of any species that have recently died without an apparent cause of death. Indications that a bird is not appropriate for testing include those dead for over 24 hours and the presence of maggots, a strong odor, or decomposition. Dead birds that are apparent road kill, that have flown into a window, or that have been attacked by another animal are also not suitable for testing.

Anyone finding a freshly dead bird should place the bird in a plastic bag, enclose the bagged bird carcass in a second bag, keep it refrigerated or frozen, and deliver it to the nearest designated collection site. For a list of sites, and further instructions, call 211 or visit www.hawaii.gov/health. Dead bird surveillance has been used extensively with no WNV cases reported associated with handling of the birds. However, when picking up a bird, use gloves, a plastic bag, or shovel to prevent direct contact, and avoid touching the sharp claws and beak.

Transmission/Spectrum of Clinical Disease

West Nile disease is a virus transmitted primarily by the bite of an infected mosquito. A person bitten by an infected mosquito may respond in a variety of ways. Eighty-percent of people infected will show no symptoms. Of the remaining 20%, the majority will show mild flu-like symptoms, a condition known as West Nile fever. Symptoms generally include fever, headache, and fatigue, sometimes swollen lymph nodes or a rash. Symptoms may last from a few days to two weeks, generally with no lingering effects. Approximately one out of every 150 who have symptoms will develop a more serious illness, known as West Nile neuroinvasive disease (WNND). In addition to severe headache and high fever, these patients may display disorientation, ataxia, coma, paralysis, meningitis, or encephalitis. Hospitalization is generally required in order to provide supportive care, such as respiratory support and in-

continued on page 3

Communicable Disease Report

Communicable Disease Division	586-4580
Tuberculosis Disease Control Branch	832-5731
Hansen's Disease Control Branch	733-9831
STD/AIDS Prevention Branch	733-9010
STD Reporting	733-9289
AIDS Reporting	733-9010
Disease Outbreak and Control Division	586-4586
Disease Investigation Branch	586-4586
Immunization Branch	586-8300
Bioterrorism Preparedness and Response Branch	587-6845
Information & Disease Reporting	586-4586
After-hours Emergency Reporting	247-2191 (State Operator)
After-hours Neighbor Island Emergency Reporting	800-479-8092

The Health State
HAWAI'I STATE DEPARTMENT OF HEALTH

Editors:
David Sasaki, DVM, MPH
Mona Bomgaars, MD, MPH

Published bimonthly by the Hawai'i Department of Health, Communicable Disease Division, Disease Outbreak and Control Division, 1250 Punchbowl Street, Honolulu, Hawai'i 96813

West Nile Prevention

continued from page 2

travenous hydration. Five to fifteen percent of those who develop WNND die. Those older than fifty have a higher risk of developing WNND. There is no cure or human vaccine for WNV.

History

WNV was first described in 1937 in a woman in the West Nile district of what is now known as Uganda. Over the next sixty years, it was seen in Africa, eastern Europe, western Asia, and the Middle East. In the 1950s, there were a number of large outbreaks of WNV in Israel. For the most part, they were associated with mild flu-like illness, with the exception of a small outbreak in 1957 in which human neurologic disease was described. In 1974, there was a very large outbreak in South Africa, associated with mild illness. Beginning in the early 1990s, there were several outbreaks involving human neurological disease, including outbreaks in Algeria in 1994, Romania in 1996-1997, the Czech Republic in 1997, the Democratic Republic of the Congo in 1998, Russia and the United States (U.S.) in 1999, and Israel in 2000.

Epidemiology in the U.S.

The U.S. has reported cases of WNV every year since 1999, when it was first detected in North America in New York City. Each summer, the geographic range has expanded and the number of cases reported has increased. Over the past five years, more than 14,000 human WNV cases from 47 states and Washington, D.C. have been reported to the Centers for Disease Control and Prevention (CDC). 566 of these infections were fatal. In 2003, there were 9862 reported cases, including 264 deaths. Among 9,733 WNV cases with available clinical and demographic data, the median age was 47 years, with a range of one month to 99 years. Approximately 28 percent of the cases were classified as neuroinvasive. Of the 264 fatalities, clinical and demographic data were available on 260. The median age of these 260 decedents was 76 years, with a range of one month to 97 years. As of July 20, 2004, 11 states plus New York City have reported 182 human cases, compared with 11 cases from seven states at this time in 2003. Only Alaska and Hawai`i have not yet reported animal or human cases.

Humans are not the only species affected by WNV. Mosquitoes become infected when they feed on infected birds, and birds become infected when infected mosquitoes bite them. The cycle usually continues between birds and mosquitoes, but sometimes an infected mosquito bites a human, horse or other animal. It also may bite a bird that is susceptible to the illness, unlike the birds involved in maintaining the transmission cycle. To date, more than 230 species of dead birds have been reported to CDC's WNV avian mortality database.

Prevention Activities in Hawai`i

Many agencies in Hawai`i are concerned about the impact WNV could have in the State. Due to our tropical climate, mosquitoes are present year-round, including species known to transmit the disease. The state has a number of unique and endangered animal species, including 32 species of birds found nowhere else on earth. It is assumed that these species lack immunity to WNV, and that exposure to the virus could result in extinction. As WNV activity increases on the mainland, particularly on the west coast, the risk of an infected bird or mosquito entering the state on an airplane or ship is assumed to increase. For these reasons, surveillance for WNV has intensified, and the DOH is preparing to promptly respond should the virus be detected. Surveillance includes the following species: dead birds, humans, mosquitos, live birds, and horses.

Dead Bird Surveillance

Dead bird surveillance was established at the end of 2002 and has undergone several changes. All bird species are now accepted for testing, rather than being limited to the six types previously solicited. This was changed because the effects of WNV on birds commonly found in Hawai`i have not been studied, and the DOH does not want to overlook potentially infected birds. The 211 hotline described in this article will provide information regarding how many birds are dying. If an increase is seen, the DOH may implement further surveillance activities. The number of sites collecting birds established with partnering agencies – local, state, and federal – has also increased. Dead bird surveillance has been shown to be an effective surveillance tool in many states, particularly because it covers all areas where people live and are willing to participate in the effort.

Human Surveillance

Since 2003, the DOH has reminded physicians by broadcast fax of the signs and symptoms of WNV infection, and the specimens that should be collected for testing. Laboratories have also been reminded that suspect cases of WNV should be reported immediately to the DOH. Symptomatic patients can be tested for WNV at the DOH laboratory. Such testing is coordinated through primary care providers.

Another important component in human surveillance is gathering information on asymptomatic blood donors. Blood banks in the state are part of a federal initiative to screen donors for WNV. The screening includes questions designed to screen out patients who may have displayed WNV-compatible symptoms. Additionally, all blood donations are screened for the presence of the virus, as the majority of people bitten by an infectious mosquito will not show symptoms but may still have virus in their blood. This screening test is similar to those used for HIV and hepatitis. In 2003, 737 counties reported WNND and viremic

continued on page 4

West Nile Prevention

continued from page 3

blood donors. In 83 (11%) of these counties, the date of viremic blood donation preceded the first WNND date of onset. If the virus is detected in a blood donation in Hawai`i, the DOH would be alerted immediately.

Mosquito Surveillance

Mosquito surveillance has been increased statewide, with a particular focus on ports of entry. Since April 2004, more than 16,000 mosquitoes have been trapped and tested for the presence of WNV. All tests have been negative. Additionally, the DOH Vector Control Branch has conducted block-by-block surveys to determine possible mosquito breeding sources within two miles of the eleven ports of entry statewide. Similar activities have recently started at Hickam Air Force Base, which is in close proximity to Honolulu International Airport.

Live Bird Surveillance

Live bird surveillance continues to be carried out by local United States Geological Survey staff and staff of Wildlife Services, a program of the United States Department of Agriculture's Animal and Plant Health Inspection Service, responsible for controlling wildlife populations at the Honolulu International Airport. Staff collect blood from birds found on O`ahu airports to test for presence of flavivirus antibody. It is hoped that, as resources increase, this program will be expanded to other islands.

Equine Surveillance

Horse surveillance is carried out by the Hawai`i Department of Agriculture (DOA). All large animal veterinarians are contacted weekly to ensure that no potential cases have been seen. If indicated, DOA staff help coordinate collection and testing of specimens. DOA will contact DOH if there is a WNV-positive horse, so that DOH staff can respond.

Individual Prevention Activities

In addition to assisting in surveillance efforts by reporting dead birds to 211, the public can play an important role in prevention. While WNV is not currently present in Hawai`i, it is important to reduce mosquito populations so that there are fewer vectors to spread the disease if it is introduced. People should eliminate standing water where mosquitoes can breed to reduce future generations of mosquitoes. A female mosquito may lay as many as 400 eggs at a time. Individuals may also protect themselves from mosquito bites by wearing long pants and sleeves, using repellent that contains DEET®, and repairing and maintaining window and door screens to keep mosquitoes out.

For more information, please call the Bioterrorism Preparedness Branch at (808) 586-4586 in Honolulu.

REFERENCES.
http://www.cdc.gov/ncidod/dvbid/westnile/conf/pdf/SMontgomery_1_04.pdf
http://www.cdc.gov/ncidod/dvbid/westnile/birds&mammals.htm

Submitted by Shokufeh Ramirez, M.P.H., Vector Borne Disease Coordinator, Bioterrorism Preparedness Branch, Disease Outbreak and Control Division.

2004 Influenza Prevention Recommendations

Updated Recommendations of the Advisory Committee on Immunization Practices (ACIP) on the Prevention and Control of Influenza were published in the May 28, 2004 issue of the Morbidity and Mortality Weekly Report. The following is a condensed version of the recommendations.

Primary Changes and Updates in the Recommendations

The 2004 recommendations include four principal changes or updates:

1. ACIP recommends that healthy children aged six to 23 months, and close contacts of children aged 0 to 23 months, be vaccinated against influenza.
2. Inactivated vaccine is preferred over live, attenuated influenza vaccine (LAIV) for vaccinating household members, health-care workers, and others who have close contact with severely immunosuppressed persons during periods when such persons require care in a protected environment. If a health-care worker receives LAIV, the health-care worker should refrain from contact with severely immunosuppressed patients for seven days after vaccine receipt. No preference exists for inactivated vaccine use by health-care workers or other persons who have close contact with persons with lesser degrees of immunosuppression.
3. Severely immunosuppressed persons should not administer LAIV. However, other persons at high risk for influenza complications may administer LAIV.
4. The 2004-05 trivalent vaccine virus strains are A/Fujian/411/2002 (H3N2)-like, A/New Caledonia/20/99 (H1N1)-like, and B/Shanghai/361/2002-like antigens.

CDC and other agencies will assess the vaccine supply throughout the manufacturing period and will make recommendations in the summer preceding the 2004-05 influenza season regarding the need for tiered timing of vaccination of different risk groups.

Influenza Vaccines and Thimerosal

LAIV does not contain thimerosal. Thimerosal preservative-containing inactivated influenza vaccines, distributed in multidose containers in the United States, contain 25 mcg of mercury/0.5 ml dose. Inactivated influenza virus vaccines distributed in the U.S. as *preservative-free* vaccines in single-dose syringes contain only trace amounts of thimerosal as a residual from early manufacturing steps. Inactivated influenza vaccine that does not contain thimerosal as a preservative has <1 mcg mercury/0.5 ml dose or <0.5 mcg mercury/0.25 ml dose.

The risks of severe illness from influenza infection are elevated among both young children and pregnant women, and both groups benefit from vaccination by preventing illness and death from influenza. In contrast, no scientifically conclusive evidence exists of harm from exposure to thimerosal preservative-containing vaccine, whereas evidence is accumulating of lack of any harm resulting from exposure to such vaccines. Therefore, the benefits of influenza vaccination outweigh the theoretical risk, if any, for thimerosal exposure through vaccination.

Recommendations for Using Inactivated and Live, Attenuated Influenza Vaccines

Both the inactivated influenza vaccine and LAIV can be used to reduce the risk of influenza. LAIV is only approved for use among healthy persons aged five to 49 years. Inactivated influenza vaccine is approved for persons aged six months and over, including those with high-risk conditions.

Target Groups for Vaccination

Persons at Increased Risk for Complications

Vaccination with inactivated influenza vaccine is recommended for the following persons who are at increased risk for complications from influenza:

- Persons aged ≥65 years;
- Residents of nursing homes and other chronic-care facilities that house persons of any age who have chronic medical conditions;
- Adults and children who have chronic disorders of the pulmonary or cardiovascular systems, including asthma;
- Adults and children who have required regular medical follow-up or hospitalization during the preceding year because of chronic metabolic diseases including diabetes mellitus, renal dysfunction, hemoglobinopathies, or immunosuppression including immunosuppression caused by medications or by HIV;
- Children and adolescents (aged six months to 18 years) who are receiving long-term aspirin therapy and, therefore, might be at risk for experiencing Reye syndrome after influenza infection;
- Women who will be pregnant during the influenza season; and
- Children aged six to 23 months.

Persons Aged 50-64 Years

Vaccination is recommended for persons aged 50-64 years because this group has an increased prevalence of persons with high-risk conditions.

Persons Who Can Transmit Influenza to Those at High Risk

Persons who are clinically or subclinically infected can transmit influenza virus to persons at high risk for complications from influenza. Decreasing transmission of influenza from caregivers and household contacts to persons at high risk might reduce influenza-related deaths among persons at high risk.

The following groups should be vaccinated:

- Physicians, nurses, and other personnel in both hospital and outpatient-

continued on page 6

Influenza Prevention

continued from page 5

care settings, including medical emergency response workers such as paramedics and emergency medical technicians;
- Employees of nursing homes and chronic-care facilities who have contact with patients or residents;
- Employees of assisted living and other residences for persons in groups at high risk;
- Persons who provide home care to persons in groups at high risk; and
- Household contacts (including children) of persons in groups at high risk.

In addition, because children from birth to 23 months are at increased risk for influenza-related hospitalization, vaccination is recommended for their household contacts and out-of-home caregivers, particularly for contacts of children aged 0 to five months, because influenza vaccines have not been approved by FDA for use in children aged less than six months.

Healthy persons aged five to 49 years in these groups who are not contacts of severely immunosuppressed persons can receive either LAIV or inactivated influenza vaccine. All other persons in this group should receive inactivated influenza vaccine.

Vaccination of Specific Populations

Pregnant Women

Because of the increased risk for influenza-related complications, women who will be pregnant during the influenza season should be vaccinated. Vaccination can be given during any trimester.

Healthy Young Children

Because children aged six to 23 months are at substantially increased risk for influenza-related hospitalizations, ACIP recommends vaccination of all children in this age group.

The current inactivated influenza vaccine is not approved by FDA for use among children less than six months of age, the pediatric group at greatest risk for influenza-related complications. Vaccinating their household contacts and out-of-home caregivers might decrease the probability of influenza infection among these children.

Persons Infected with HIV

Because influenza can result in serious illness, and because influenza vaccination can result in the production of protective antibody titers, vaccination will benefit HIV-infected persons, including HIV-infected pregnant women.

Breastfeeding Mothers

Influenza vaccine does not affect the safety of mothers who are breastfeeding their infants. Breastfeeding does not adversely affect the immune response and is not a contraindication for vaccination.

Travelers

Persons at high risk for complications of influenza who were not vaccinated with influenza vaccine during the preceding fall or winter should consider receiving influenza vaccine before travel if they plan to
- Travel to the tropics
- Travel with organized tourist groups at any time of year, or
- Travel to the southern hemisphere during April-September.

General Population

In addition to the groups for which annual influenza vaccination is recommended, physicians should administer influenza vaccine to any person who wishes to reduce the likelihood of becoming ill with influenza depending on vaccine availability. The vaccine can be administered to children at or above six months of age.

Comparison of LAIV with Inactivated Influenza Vaccine

Major Similarities

- LAIV and inactivated vaccine contain strains of influenza viruses that are antigenically equivalent to the annually recommended strains.
- Viruses for both vaccines are grown in eggs.
- Both vaccines are administered annually to provide optimal protection against influenza infection.

Major Differences

- Inactivated influenza vaccine contains killed viruses, whereas LAIV contains attenuated viruses still capable of replication.
- LAIV is administered intranasally by sprayer, whereas inactivated influenza vaccine is administered intramuscularly by injection.
- LAIV is more expensive than inactivated influenza vaccine.
- LAIV is approved for use only among healthy persons aged five to 49 years; inactivated influenza vaccine is approved for use among persons at or above six months of age, including those who are healthy and those with chronic medical conditions.

Live, Attenuated Influenza Vaccine Recommendations

LAIV is a live, trivalent, intranasally administered vaccine that is
- Attenuated, producing mild or no signs or symptoms related to influenza virus infection;
- Temperature sensitive, a property that limits the replication of the vaccine viruses at 38-39°C, and thus restricts LAIV viruses from replicating efficiently in human lower airways; and
- Cold-adapted, replicating efficiently at 25°C, a temperature that is permissive for replication of LAIV viruses, but restrictive for replication of different wild-type viruses.

Available data indicate that both children and adults vaccinated with LAIV can shed vaccine viruses for two or more days after vaccination, although in lower titers than typically occur with shedding of wild-type influenza viruses. Shedding should not be equated with person-to-person transmission of vaccine viruses, although, in rare instances, shed vaccine viruses can be transmitted from vaccinees to nonvaccinated persons.

continued on page 7

Influenza Prevention

continued from page 6

LAIV is an option for vaccination of healthy persons aged five to 49 years, including persons in close contact with groups at high risk and those wanting to avoid influenza.

Persons Who Should Not Be Vaccinated with LAIV

- Persons aged less than five years or those aged ≥50 years;*
- Persons with asthma, reactive airways disease or other chronic disorders of the pulmonary or cardiovascular system; persons with other underlying medical conditions, including such metabolic diseases as diabetes, renal dysfunction, and hemoglobinopathies; or persons with known or suspected immunodeficiency diseases or who are receiving immunosuppressive therapies;*
- Children or adolescents receiving aspirin or other salicylates*
- Persons with a history of Guillain Barre Syndrome
- Pregnant women*
- Persons with a history of hypersensitivity, including anaphylaxis, to any of the components of LAIV or to eggs.

*These persons should receive inactivated influenza vaccine.

Close Contacts of Persons at High Risk for Complications from Influenza

Use of inactivated influenza vaccine is preferred for vaccinating household members, health-care workers, and others who have close contact with severely immunosuppressed persons (e.g., patients with hematopoietic stem cell transplants) during those periods in which the immunosuppressed person requires care in a protective environment. The rationale for not using LAIV among health-care workers caring for such patients is the theoretical risk that a live, attenuated vaccine virus could be transmitted to the severely immunosuppressed person and cause disease. No preference exists for inactivated influenza vaccine use by health-care workers or other persons who have close contact with persons with lesser degrees of immunosuppression, e.g., persons with diabetes, persons with asthma taking corticosteroids, or persons infected with HIV. No preference exists for inactivated influenza vaccine use by health-care workers or other healthy persons aged five to 49 years in close contact with all other groups at high risk.

If a health-care worker receives LAIV, that worker should refrain from contact with severely immunosuppresssed patients as described previously for seven days after vaccine receipt. Hospital visitors who have received LAIV should refrain from contact with severely immunosuppressed persons for seven days after vaccination; however, such persons need not be excluded from visitation of patients who are not severely immunosuppressed.

Personnel Who May Administer LAIV

Severely immunosuppressed persons should not administer LAIV. However, other persons at high risk for influenza complications may administer LAIV. These include persons with underlying medical conditions placing them at high risk or who are likely to be at risk, including pregnant women, persons with asthma, and persons aged >50 years.

LAIV Schedule

LAIV should be administered annually according to the following schedule:

- Children aged five to eight years previously unvaccinated at any time with either LAIV or inactivated influenza vaccine should receive two doses of LAIV separated by six to 10 weeks.
- Children aged five to eight years previously vaccinated at any time with either LAIV or inactivated influenza vaccine should receive one dose of LAIV. They do not require a second dose.
- Persons aged nine to 49 years should receive one dose of LAIV.

LAIV can be administered to persons with minor acute illnesses e.g., diarrhea or mild upper respiratory tract infection with or without fever. However, if clinical judgment indicates nasal congestion is present that might impede delivery of the vaccine to the nasopharyngeal mucosa, deferral of administration should be considered until resolution of the illness.

LAIV and Use of Influenza Antiviral Medications

The effect on safety and efficacy of LAIV coadministration with influenza antiviral medications has not been studied. However, because influenza antivirals reduce replication of influenza viruses, LAIV should not be administered until 48 hours after cessation of influenza antiviral therapy, and influenza antiviral medications should not be administered for two weeks after receipt of LAIV.

Future Directions

ACIP plans to review new vaccination strategies for improving prevention and control of influenza, including the possibility of expanding recommendations for use of influenza vaccines. In addition, strategies for regularly monitoring vaccine effectiveness will be reviewed.

For further information, including efficacy and effectiveness of inactivated influenza vaccine and LAIV, inactivated influenza vaccine recommendations, vaccine side effects and adverse reactions, timing of annual influenza vaccination, strategies for implementing recommendations in health care settings, and recommendations for using antiviral agents for influenza, see "Prevention and Control of Influenza," Recommendations of the Advisory Committee on Immunization Practices (ACIP) in MMWR 2004; 53 (RR-6): 1-40, visit the National Immunization Program website at http://www.cdc.gov/nip, or call the Hawai`i Immunization Program at (808) 586-8300 in Honolulu.

Reference

Centers for Disease Control and Prevention. Prevention and Control of Influenza - Recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR* 2004; 53 (RR-6): 1-40.

Hawai`i's Influenza Season (2003-04) Summary

Hawai`i's influenza season, September 28, 2003 to May 22, 2004, started off later than it did on the mainland; however, activity proved to be heavier than the previous season. The majority of the cases occurred during late December and early January (See Fig. 1). Sixty percent of all influenza cases for the season occurred during the four-week period between December 20, 2003 and January 10, 2004. The dominant strain-type was A/Fujian (H3N2)-like, which was not an exact match with the vaccine virus. Thus, the vaccine stimulated antibodies lower in frequency and titer to the circulating A/Fujian (H3N2)-like strain. This strain has been included in the 2004-05 season's vaccine.

Influenza A strains comprised 98% of all influenza cases identified and 88% of all identified viral respiratory illnesses (Fig.2). Hawai`i's influenza surveillance for the 2003-04 season detected 633 influenza A and 12 influenza B virus isolates. Information on antigenic characterization was available for 545 isolates:

- 533 Influenza A H3N2 (4 strain-typed as A/Fujian/411/2002-like)
- 12 Influenza B (1 strain-typed as B/Sichuan/379/99-like)

Influenza-associated pediatric deaths received considerable attention this season, and the Centers for Disease Control (CDC) requested that state and local health departments report influenza-associated deaths in persons aged less than 18 years old. As of March 27, 2004, CDC had received reports of 142 influenza-associated deaths in U.S. residents aged less than 18 years occurring in the current season. Fortunately, there were no reports of influenza-associated deaths in children in Hawai`i during the current season.

2004-05 Influenza Vaccine

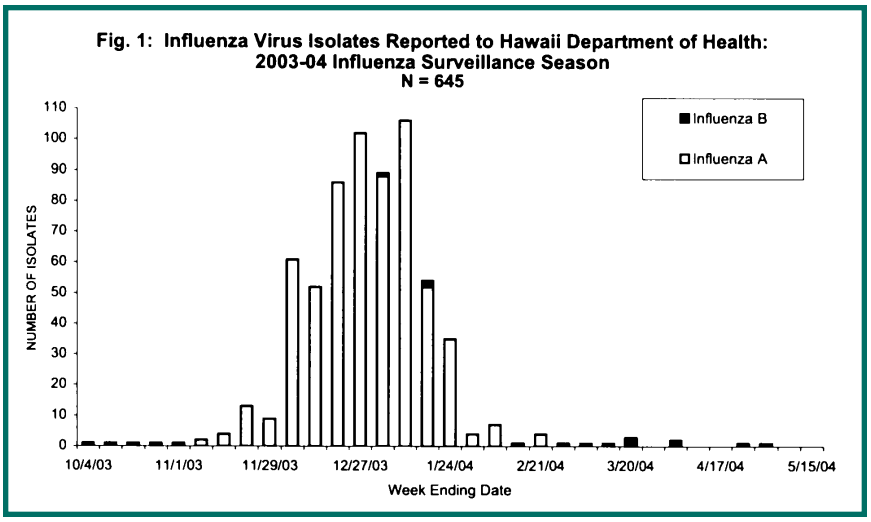
The Food and Drug Administration's Vaccine and Related Biological Products Advisory Committee recommended that the 2004-05 trivalent influenza vaccine for the United States contain A/New Caledonia/20/99-like (H1N1), A/Fujian/411/2002-like (H3N2), and B/Shanghai/361/2002-like viruses. Both the influenza A (H3N2) and influenza B components have been changed from the 2003-04 season vaccine components. This recommendation was based on antigenic analyses of recently isolated influenza viruses, epidemiologic data, and post-vaccination serologic studies in humans.

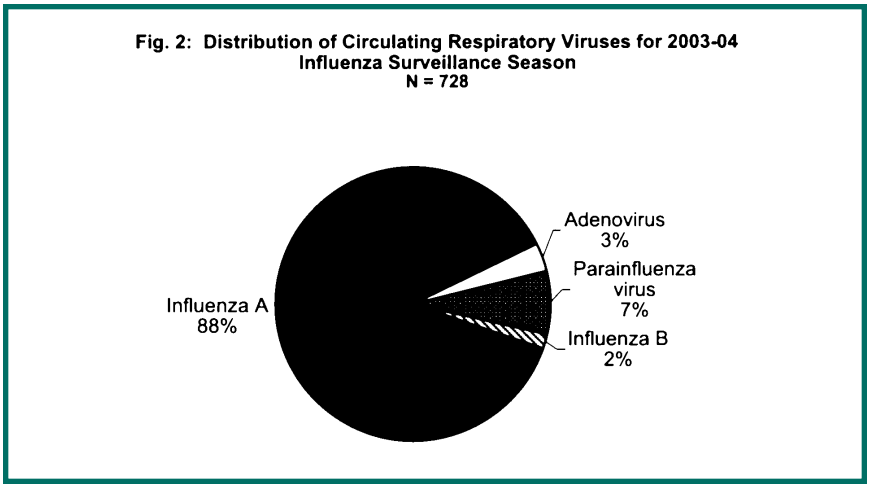
During the period of September 2003 to February 2004, influenza A (H3N2) viruses similar to A/Fujian/411/2002 dominated most countries as it did in Hawai`i. Overall influenza activity in the northern hemisphere was heavier than the previous season with several outbreaks associated with influenza A/Fujian-like virus. Influenza B viruses circulated at only mild levels throughout both hemispheres.

For more information regarding the influenza vaccine visit the CDC website at: http://www.cdc.gov/nip/vaccine/flu/default.htm - latest.

REFERENCES.
1. Centers for Disease Control and Prevention. 2004. *MMWR*. Update: Influenza Activity-United States, 2003-04 Season. 53(13);284-287.
2. Centers for Disease Control and Prevention. 2004. Weekly Flu Report, Week 20. (http://www.cdc.gov/flu/weekly/).

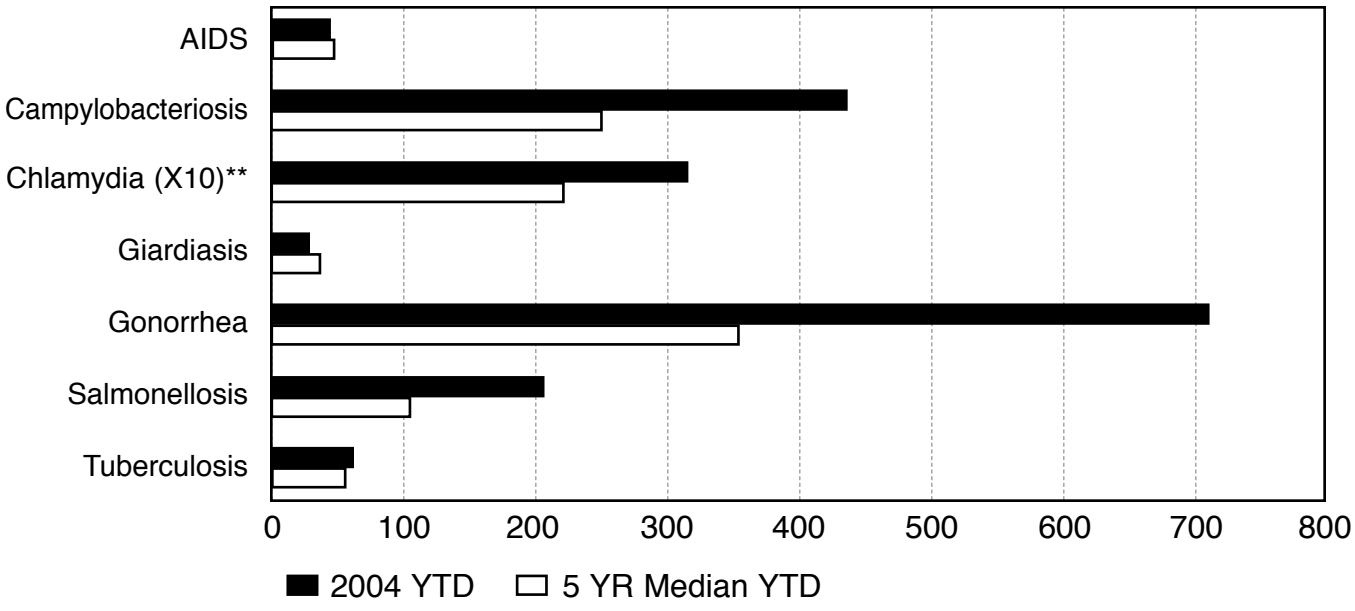
Submitted by Tracy L. Ayers, M.S., Influenza and Respiratory Illness Surveillance Coordinator, Disease Investigation Branch, Disease Outbreak and Control Division.

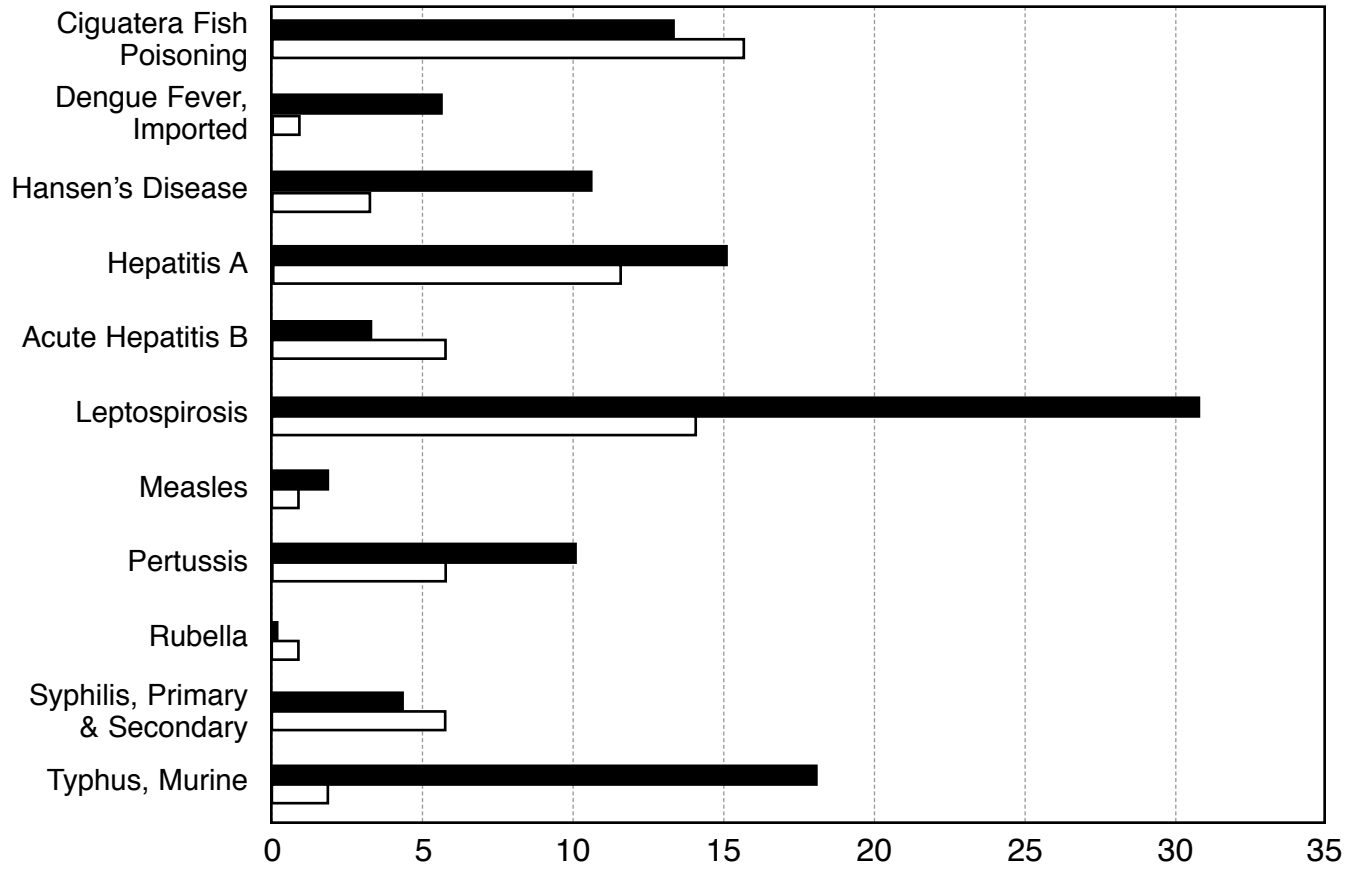




Communicable Disease Surveillance

Selected Diseases by Date of Report*
Hawai'i, 2004 Year-to-date Through July





* These data do not agree with tables using date of onset or date of diagnosis.
** The number of cases graphed represent 10% of the total number reported.